

Company Overview



The company dataPartner s.r.o. has been operating on the market for 28 years. Thanks to its many years of experience, dataPartner has moved from a subcontractor of partial systems to an integrator of I&C systems and a manufacturer of important components for neutron flux measurement systems (NIS) and for reactor rapid shutdown systems (RPS).

Core competencies of dataPartner s.r.o. include the following products and services:

- » **Experimental nuclear reactor control systems (RCS)**
- » **Neutron flux measurement systems (NIS)**
- » **Reactor emergency shutdown systems (RPS)**
- » **Automatic nuclear reactor power regulator**
- » **Process control and management systems, HMI, SCADA systems**
- » **Measurement and regulation systems for industrial applications and buildings**
- » **Development and production of electronic devices**
- » **Measuring and testing workplaces for industrial products**
- » **Custom and individual development of software and hardware according to customer specifications**

The diversity, professionalism of processing and operational reliability of control and management systems after the implementation of innovative projects speak of the high qualification of dataPartner s.r.o. and the quality of the products and services provided by us.

Neutron instrumentation system (NIS)

Neutron flux measurement channels (NI) provide measurements of neutron flux density and rate of power change for nuclear reactor control and protection systems. Outputs from NI systems are used for reactor control and can initiate its shutdown when limit values are exceeded.

The NI channel consists of two units: a measuring unit and an evaluation unit. The combination of these two units allows the system to be used for a wide range of reactor power from the start-up range to the power pulse.

Reactor Protection System (RPS)

The supplied Reactor Protection System (RPS) is a powerful safety system designed to perform safety functions (SCRAM) in the event of non-compliance with the operating limits and conditions defined for reactor operation. The SCRAM circuits are implemented on relay logic, which consists of certified safety relays.

The testability of the RPS device is ensured by the following features:

- The power supply cards are equipped with diagnostics that prevent power activation if any relay contact is stuck.
- The output card is equipped with similar diagnostics that prevent power supply to the contactors if any contact is stuck.

- There are indicators LEDs on the front of the SCRAM cards. These LEDs indicate the status and presence of both poles of the relay power supply. They also provide information about the presence and correctness of the power supply branches. Next to each LED on the card is its description.

- Diagnostic functions include signals indicating the correct level of supply voltage and the correct functioning of all power supplies. The power supply branch for contactors and electromagnets is equipped with insulation diagnostics.

Conclusion

Currently, dataPartner provides service for research reactors in the Czech Republic, Austria, Jamaica and Poland. We are also implementing the delivery for a nuclear power plant, which is participation in the renewal of the diesel generator control system at the Temelín NPP.

Given the scope of activities and many years of experience of dataPartner, we can cooperate as a subcontractor of control and management systems in both the nuclear and non-nuclear parts of the nuclear power plant systems.

Project Timeline

Sucesfully completead:

- » 2007: RCS and HMI for VR-1 reactor
- » 2008: NIS for VR-1; Control system for LR-0
- » 2015: Protection system for LVR-15
- » 2016: Full I&C system for TRIGA MARK II (Austria).
- » 2019: NIS chamber replacement and I&C safety circuit upgrades for LVR-15
- » 2020: Replacement of neutron flux startup channels for Maria (Poland).
- » 2021: RCS and RPS for VR-2 reactor
- » 2024: RCS renewal for JM-1 SLOWPOKE 2 (Jamaica); RPS innovation for LR-0

Ongoing:

- » 2024: Diesel generator control renewal for Temelín NPP.
- » 2025: I&C system upgrades for LVR-15; Comprehensive I&C renewal (NIS, RPS, HMI, RCS, DAS) for Maria (Poland).

